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BAYER MATERIAL SCIENC LLC 100 BAYER ROAD PITTSBURGH, PA 15205			GILLESPIE, BENJAMIN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/784,018

Filing Date: February 20, 2004

Appellant(s): GURTNER ET AL.

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Lyndanne M. Whalen  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 2/8/2008 appealing from the Office action mailed  
7/12/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is substantially correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

2003/0096103	Watanabe et al	5-2003
5,138,015	Yagii et al	8-1992

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**Ground A- The rejection of claims 1, 3, 5-8, 14-18, 22-24, and 29-37 under 35 U.S.C. 103(a) as being unpatentable over Watanabe (2003/0096103) in view of Yagii et al ('015)**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-8, 14-18, 22-24, and 29-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (2003/0096103) in view of Yagii et al ('015). Watanabe et al teach a coated metal plate and method for its production, wherein the coating comprises a one-component polyurethane based baking system comprising a mixture of blocked polyisocyanate, polymers having isocyanate-reactive groups, Molybdenum oxide catalyst, water, and further additives and auxiliaries, wherein all components are present in amounts that correspond to the claimed ranges (Abstract, paragraphs 30, 31, 32, 36, 37, and 53). In particular, the blocked polyisocyanate consists of hexamethylene and isophorone diisocyanate, and the isocyanate-reactive polymers consist of polyesters (Paragraphs 30 and 33).

Although diisocyanates may not inherently be hydrophilic, depending on the blocking agent utilized, that property can change. In addition to alcohol based blocking agents, Watanabe et al teach carbamic acid blocking agents, and once said acid is neutralized, the diisocyanate may be water dispersible (Paragraph 34 and 36). Since dispersion of the resin and blocked diisocyanate occurs before curing, it would have been obvious to modify the diisocyanate into a

Art Unit: 1700

hydrophilic compound so that its content would have been homogenous throughout the dispersion.

Various methods of mixing are disclosed by Watanabe et al; the first being catalyst added to blocked polyisocyanate and isocyanate-reactive polymer mixture prior to being dispersed in water, and another being blocked polyisocyanate, isocyanate-reactive polymer and catalyst are added together in the presence of solvent before dispersion in water (Paragraphs 35-37). However, Watanabe et al fail to disclose aromatic polyisocyanates, and while the catalysts consist of Molybdenum oxides, the prior art is silent in specifying the same catalyst as claimed.

Yagii et al teach the production of polyurethane, wherein a urethane intermediate is thermally decomposed into diisocyanate and methanol, and the diisocyanate is then reacted with hydroxyl-functional material to produce polyurethane. The thermal decomposition produces diisocyanate consisting of isophorone, hexamethylene, xylene, and toluene diisocyanate, and said decomposition is aided by Molybdenum acetylacetone and Molybdenum oxide catalysts (Abstract; col 9 lines 1-22, 31-58). It is noted that the intermediate is the reaction product of a dialkyl carbonate and diamine; however, the resulting intermediate structure is identical to that of an alcohol-blocked diisocyanate. Finally, Yagii et al teach the thermal decomposition preferably feeds the urethane composition into catalyst containing solvent (Col 10 lines 49-52).

Therefore, it would have been obvious to utilize the aromatic diisocyanates, catalyst, and method of Yagii et al in Watanabe et al, because both are drawn to coating compositions comprising blocked diisocyanate, Watanabe et al are drawn to Molybdenum oxide catalysts, and the Molybdenum oxide catalysts of Yagii et al facilitate de-blocking the same diisocyanates as Watanabe et al, which would thereby facilitate the curing process of Watanabe et al.

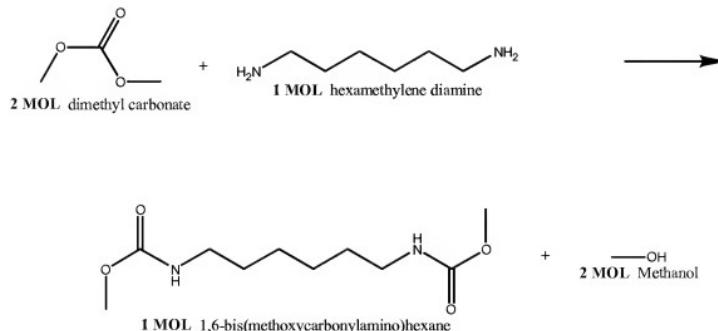
**(10) Response to Argument**

**Response to Ground A- The rejection of claims 1, 3, 5-8, 14-18, 22-24, and 29-37 under 35 U.S.C. 103(a) as being unpatentable over Watanabe (2003/0096103) in view of Yagii et al**

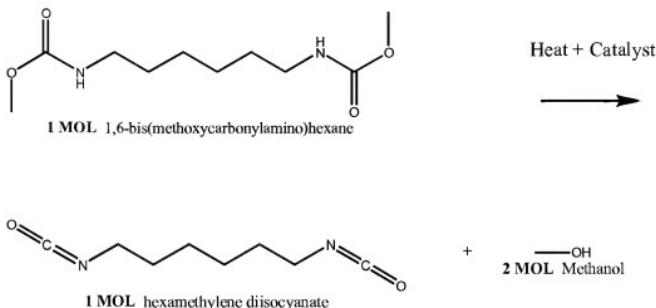
Appellants argue that the claimed invention is patentable over the prior art because the relied upon teachings of Yagii et al are drawn to thermal decomposition of urethane intermediates, not the de-blocking of blocked diisocyanates. Appellants' also argue that it would not have been obvious to include the catalyst of Yagii et al because it does not aid the urethane forming reaction between isocyanate and hydroxyl groups.

While it is noted that the relied upon teaching of Yagii et al are drawn to the "thermal decomposition" of urethane intermediates, and Watanabe et al are drawn to de-blocking blocked diisocyanates, and both differ on how the urethane intermediate/blocked diisocyanate are obtained, this does not detract from the fact that the thermal decomposition/de-blocking reactions exhibit analogous chemistry.

Below exemplifies the relied upon chemistry of Yagii et al:

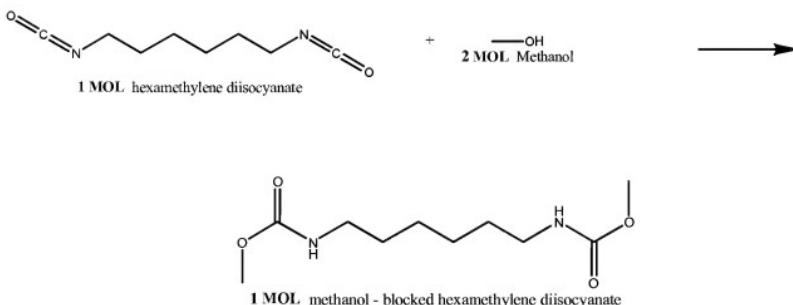


The urethane intermediate consists of **1,6-bis(methoxycarbonylamino)hexane**, which is then thermally decomposed in the presence of the relevant catalyst to form the reactive diisocyanate compounds



This last stage shows that hexamethylene diisocyanate (HDI) and methanol blocking agent are produced, wherein the HDI is then further reacted with hydroxyl-functional material to form the final polyurethane.

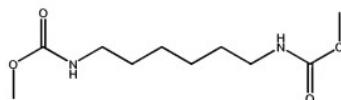
Now the blocking and de-blocking chemistry of Watanabe et al:



The methanol – blocked hexamethylene diisocyanate is then de-blocked according to the same reaction set forth at the top of page 6.

One of ordinary skill in the art would easily recognize the urethane intermediate of Yagii et al: 1,6-bis(methoxycarbonylamino)hexane is the same as the methanol-blocked hexamethylene diisocyanate of Watanabe et al, and while Yagii et al may not employ the same language describing the intended use, i.e. de-blocking diisocyanates, this does not detract from the fact that said catalyst is useful in de-blocking diisocyanates, since both the reactions of Yagii et al and Watanabe et al share the same chemistry.

Furthermore, the mere difference in language, i.e. "thermal decomposition" vs. "de-blocking of diisocyanate" does not determine whether the catalyst of Yagii et al would successfully de-block the polyisocyanates of Watanabe et al; de-blocking reactions can be considered thermal decompositions as heat is used to break the bond of the diisocyanate and blocking agent, and both Yagii et al and Watanabe et al share the same intent, i.e. creating free diisocyanate from compounds corresponding to the formula:



Finally, concerning appellants' remarks stating the catalyst of Yagii et al would not aid in the urethane forming urethane groups is not commensurate in scope with the present claims; no limitations have been set forth requiring the catalyst to influence only the urethane reaction.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Benjamin Gillespic/

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